Neets Switching Relay - 8

P/N#: 306-0014

User Manual

Foreword

The purpose of this document is to describe how to install and operate the Neets Switching Relay – 8

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Questions, AFTER reading this manual, can be addressed to your local distributor or:

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or you may use our contact form at www.neets.dk

Revision list

This document (no: 306-0014-001-006) has the following revision changes:

Author: Date	Description	Pages	Rev
MH: 11-08-2014	First release.	All	1.00

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Description

Neets Switching Relay – 8 (Relay – 8) provides total control in complex applications such as larger meeting / conference rooms, lecture halls, and auditoriums. Automatic, configurable control is provided for all devices requiring AC power on/off: projector lifts, screens, curtains and architectural lighting. Multiple relay activations can be immediate and simultaneous, or programmed for activation in a timed sequence.

Relay - 8 is designed to interact with AV control systems, to facilitate seamless integrated control of projectors, audio and video sources, and audio mixing along with relay switching functions. Relay - 8 incorporates a full range of options for real-time system control, including RS-232, IR or LAN. All functions are easily configurable through LAN using Neets configuration software or 3rd party systems, making the Relay - 8 a valuable tool for demanding applications.

What can it do?

- Easy control by RS232 or LAN
- Daisy Chain multiple Relay – 8 (Control multiple units by one RS232 port)
- Ready to use, as a standard relay box. (Control the relay by the I/O ports)
- RS232 Loop-through. Control any unit on RS232 port 2. (Can have different communication parameter than RS232 port 1)
- When controlling the unit by LAN IR control is possible.
- LAN to RS232 gateway.
- Compatible with 3rd party control systems.
- Software screen mode for easy and safe control of electrical screen.

Specifications

Power Input	
Voltage	100 VAC – 240 VAC
Line Frequency	47 Hz – 63 Hz
Power usage	12 W
Connector type	IEC plug

Relay Output	
Voltage max	240 VAC
Current max	8 A
Load max AC1	1150 W @ 230 VAC
Load max AC15	500 W @ 230 VAC
Single phase motor	370 W @ 230 VAC
Connector	3 pin screw block

Input / Output	
Input trigger low	< 1 VDC
Input trigger high	> 4 VDC
Output type	Open drain
Isolated output	No
Max voltage load	24 VDC
Max current	0.5 A
Connector	5 pin screw block

IR	
Transmit frequency	400 Hz to 500 KHz

Approvals	
IEC/EN	61000-6-1
IEC/EN	61000-6-2

Network (LAN)	
Speed	10 / 100 Mbit
Duplex modes	Half or Full
DHCP	Default off
Default IP	192.168.254.252
Default gateway	192.168.1.1
Default subnet mask	255.255.255.0

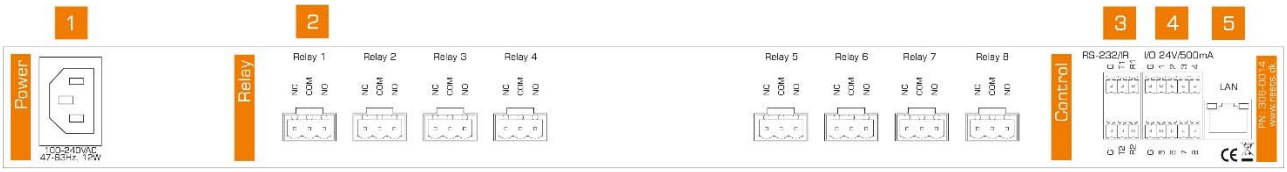
RS-232	
Baud rate	1200 – 115200 bit/sec
Data bits	7, 8
Parity	Even, Odd, None
Stop bits	1, 2

General	
Width	437 mm / 483 mm
Depth	141 mm
Height	44 mm (1U)
Weight	2.0 kg
Shipping weight	2.9 kg
Shipping dimensions (W/D/H)	530 mm / 230 mm / 80 mm
Storage temperature	-20 °C to 50 °C
Storage moisture	Non condensing
Operation temperature	0 °C to 30 °C
Operation moisture	Non condensing

Front Panel

Number	Description
1	LED indication for transmitting or receiving RS-232 or transmitting IR
2	LED indication for IO status
3	LED relay status indication with corresponding relay test buttons
4	Mini USB for firmware update functionality
5	Power and status indication

Rear Panel



Number	Description
1	100-240 VAC power in
2	8 x Potential-free relays
3	2 x bi-directional RS-232 or IR transmitter
4	8 x digital I/O connectors
5	1 x RJ-45 Network (LAN) connector

Hardware installation

The Relay – 8 is designed to be mounted in a rack or as a stand-alone unit on a desk, drawer or alike.

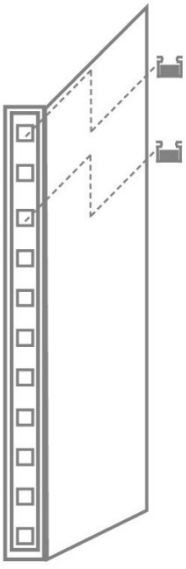
Make sure there is at least 40 mm of free space above the unit as air circulation around the unit is needed for reliable performance. If installed in a closed environment forced air circulation may be needed.

Mounting the unit in a 19" rack

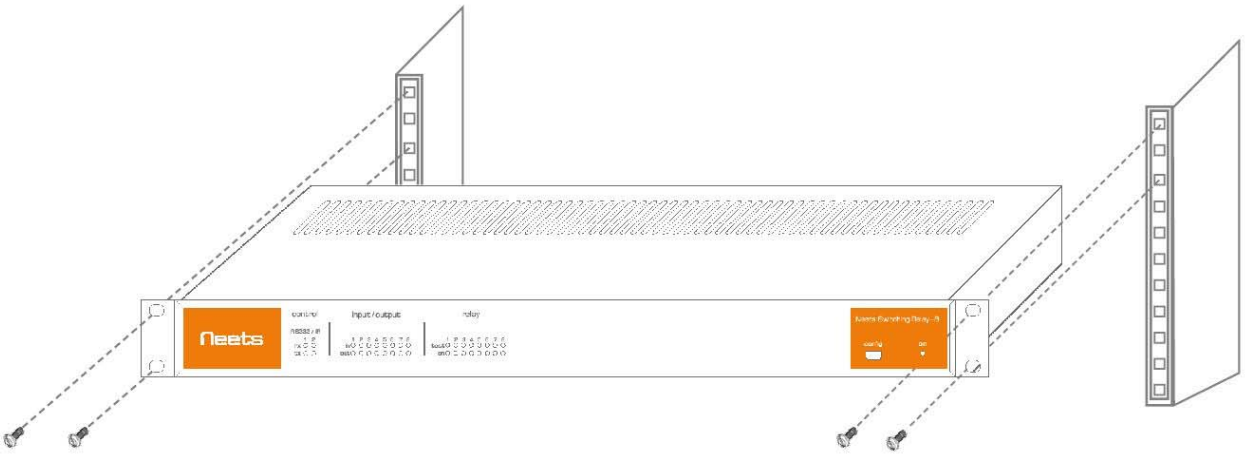
The Relay – 8 can easily be installed in a 19" rack.

Due to the standard 1U height, low weight and small mounting depth the Relay – 8 can be mounted from the rack front without the use of a rack shelf or supporting rails.

1: Mount two clip nuts on each side of the rack as shown below:



2: Slide the Relay – 8 into the rack and secure with the M6x10 screws.



3: The unit is now ready to be connected with all peripherals as needed.

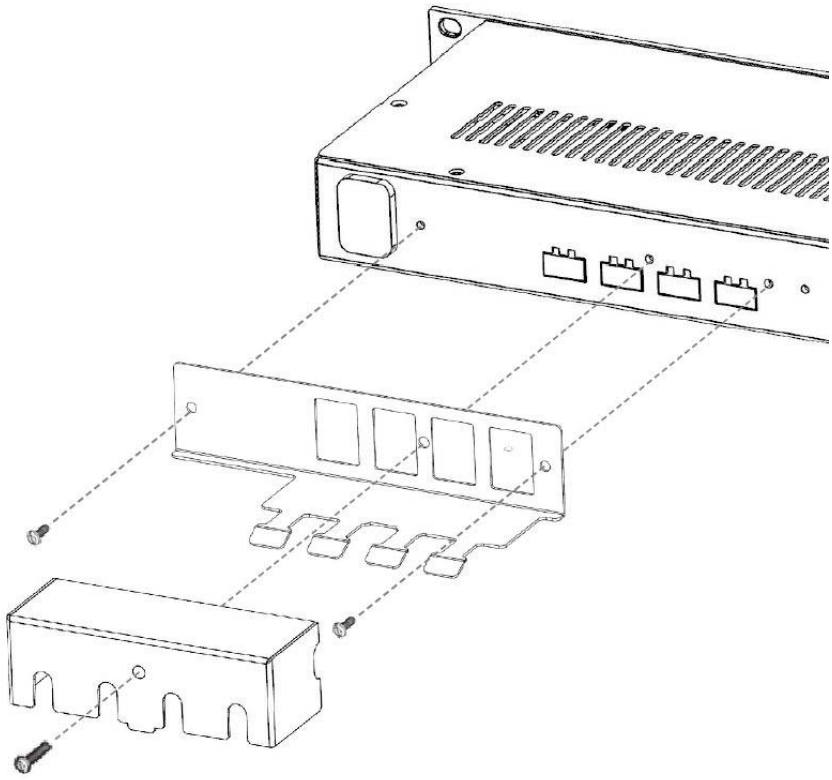
Mount cable relief bracket and covers

To secure heavy duty cables at the relay receptacles two sets of cable relief brackets and covers are supplied with the Relay - 8.

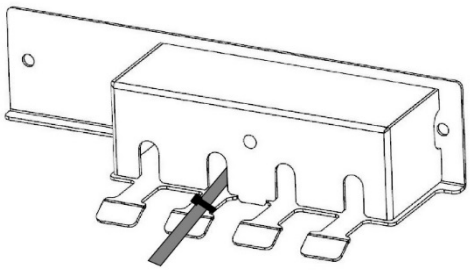
Secure the cable relief brackets with the supplied M4x6mm screws to the Relay - 8.

Insert your cable in the supplied screw terminal connector and insert this connector to the appropriate relay receptacle in the Relay – 8.

Secure the cables with supplied cable binders to the cable relief bracket.



Finally, mount the cable relief cover over the cable relief bracket and secure with supplied M4x45mm screw.

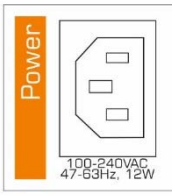


Connections and Controls

In this section, you will find information on how to connect and use the different ports.

AC Line

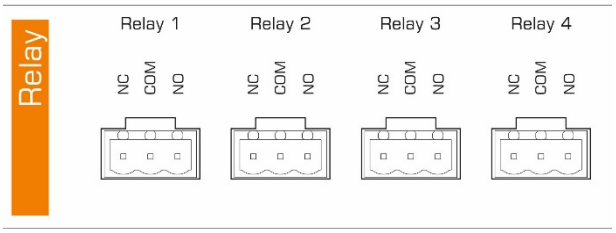
Connect the Relay - 8 to the AC line supply using the supplied power cable. The supplied cable will be equipped with a line socket connector for use in the country of sale.



The Relay - 8 incorporates a universal mains power supply, which accepts AC line input from 110 V to 240 V.

Relays

Relays allow the option of NO (Normal Open) and the NC (Normal Close) for greatest flexibility. On the front of the Relay – 8 you find a LED for each relay. When a relays led lights green it means that it's COM are connected to NO.



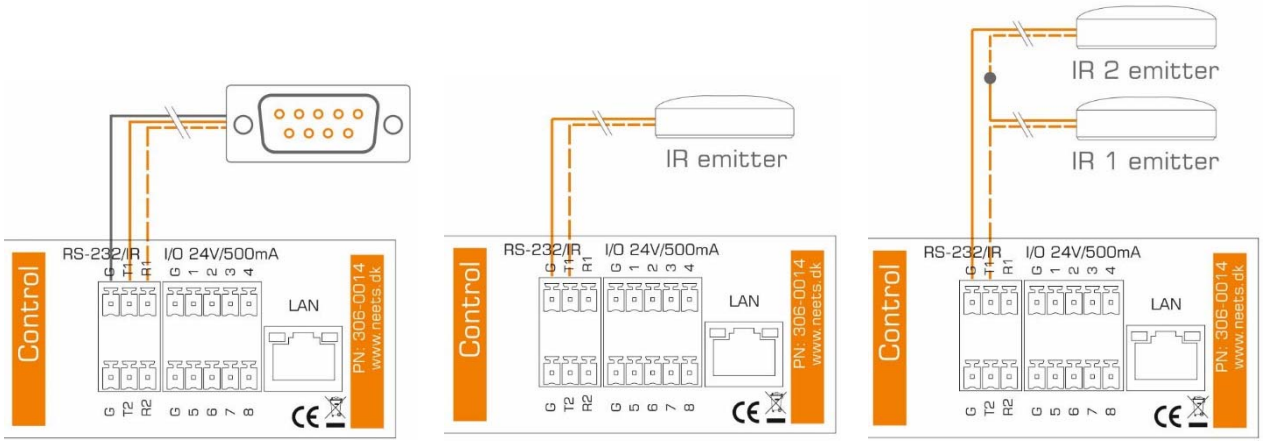
Here you can connect cables directly to the Relay – 8 using the supplied terminal block connectors for each individual relay. Use the supplied cable relief brackets to fix the cables with a cable tie to prevent accidental disconnection of the cables. See section Mount cable relief bracket and covers on page 6.

If you want to connect and switch AC power for your external equipment in an easy and convenient way use the Neets IEC Mains Adaptor (306-0015) (sold separately) instead of the terminal block and cable relief brackets.

Neets IEC Mains Adaptor

RS-232/IR ports

The onboard RS-232 ports (T1, R1, T2, R2) can be used for one- or two-way communication. Both of the RS-232/IR ports can be used as either as RS-232 or as IR emitter.
On the front of the Relay – 8 you will find 2 led for each RS232/IR port. When the Relay – 8 is sending data on a RS232/IR port it's green tx led will light. When the Relay – 8 is receiving RS232 data the orange rx led will light.



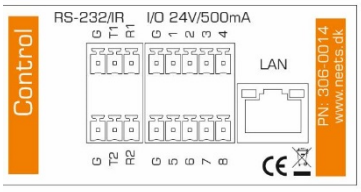
When used as RS-232 transmit port: Connect the device to T1, R1 and GND, as shown here above.

When used as single IR port: Connect the IR emitter to T1 (white striped wire) and GND, as shown above.

When used as dual IR port: Connect the IR 1 emitter to T1 (white striped wire) and black wire on IR 1 emitter to IR 2 emitter (white striped wire), and black wire from IR 2 emitter to GND, as shown above.

Digital I/O

The Relay – 8 has 8 x I/O (Inputs/Outputs) available. They can be used for an external control keypad, PIR (movement) sensor, keyboard lock, extra relays, or other compatible uses. The ports are not potential free; you may need external relays if you need to prevent ground loops.

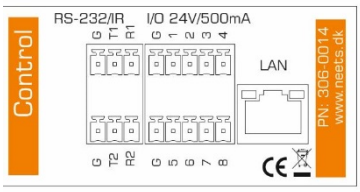


When used as outputs, the ports are active low. When indicated as active, the pins are tied to GND through a FET transistor (also called open drain/collector function). Each can draw up to 24VDC/500mA.
For each output pin there is a led on the front of the Relay – 8. The led are on when the output pin is activated (The output pin is connected to GND)

When used as inputs the voltage has to be below 1 Volt DC to be accepted as LOW, and above 4 VDC (but below 24 VDC) to be accepted as HIGH. The inputs are default HIGH and must be connected to ground in order to change state.
For each input there is a led on the front of the Relay – 8. The led indicates the current state of

the input. When the led lights orange it indicate that the input is high, when the light is off the input is low.

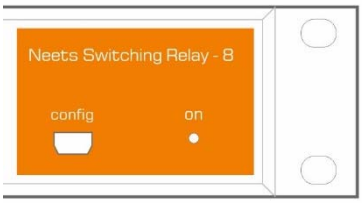
LAN



The network connector integrates the system into the local area network.
There are two LEDs on the connector with the following indication:

Color	Off	On	Blink
Yellow	No Link	Link	Activity
Green	10Mbit	100Mbit	

Front panel USB



The USB port (labeled "config" on the front) can only be used to firmware upgrade the Relay – 8 through a Windows/MAC/Linux computer. See the section How to upgrade the Firmware on page 11 for details.

You are not able to configure or control the Relay – 8 through this port. Do not connect any other devices to this port. The USB connector for connecting to the Relay – 8 is type "mini USB B 5P".

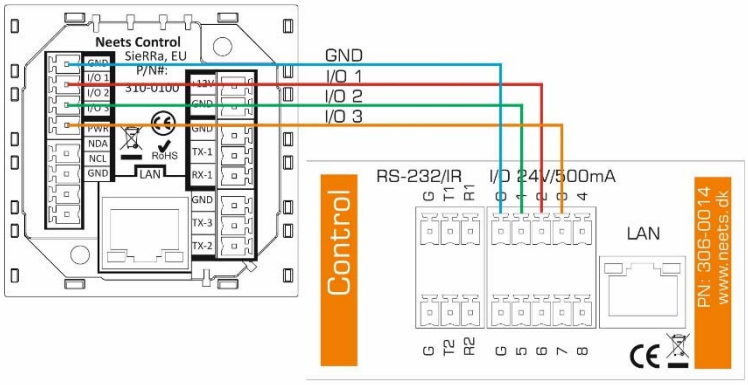
You can buy this cable on the web (buy a USB A to Mini USB B 5P).

How to connect...

Connecting the Relay – 8 to the control system

Using I/O pins

If you want to control one or more relays from a digital output, like any of the Neets Control system range provides, you can do this. By default the Relay – 8 is configured to link the I/O pins to the relays. This means that you can connect the I/O of the Neets Control system directly the Relay – 8.

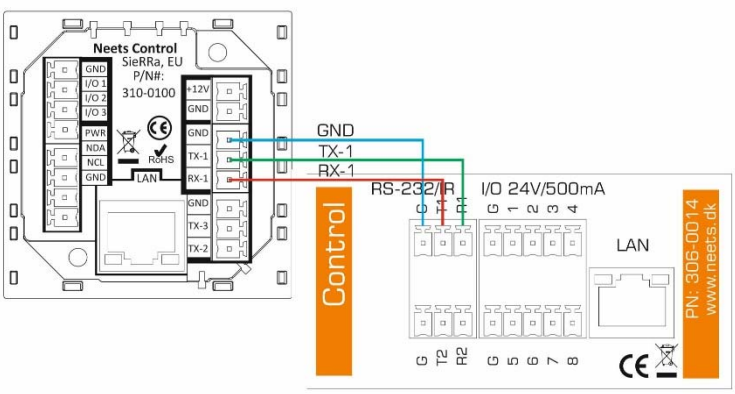


Not using a Neets Control system to control the Relay – 8 ?

Our I/O can interface with all system that can pull the Input low. To test this simply make a short circuit between the I/O pin and GND to active the relay.
If the Relay – 8 has been used before it is recommended to reset the Relay – 8 to make sure that no settings that prevents this operation are saved in the unit (See section page 13).

Using RS232

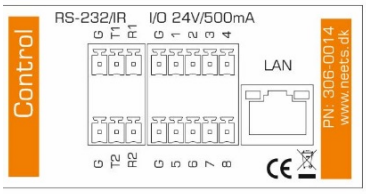
When controlling the Relay – 8 by RS232 you have to connect the RS232 port from the control system to the Relay – 8 RS232 port 1 (T1,R1 and G).



The command that has to be sent can be found in the section on page 14. Remember, controlling Relay – 8 by both RS232 and LAN is not possible at the same time.

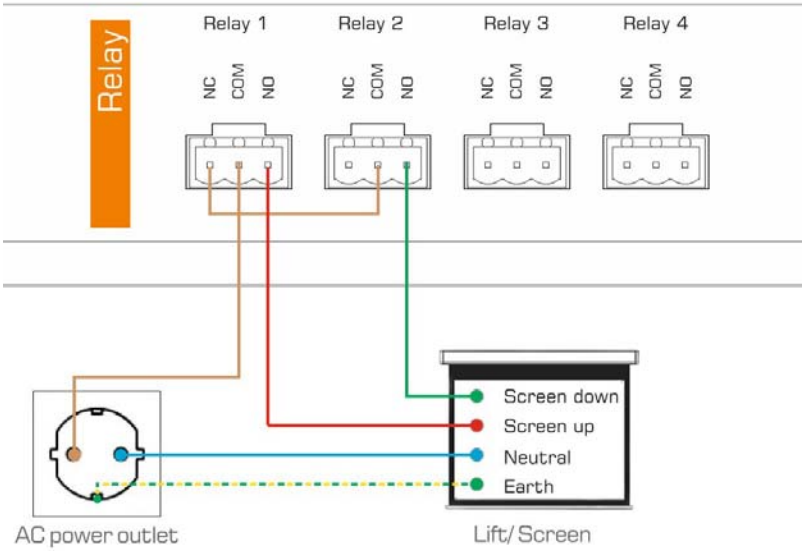
Using LAN

Controlling the Relay – 8 can also be done over LAN. This is done by creating a TCP connection from the control system to the control port (Default 5000).
The protocol that is used to control the Relay – 8 over LAN is the same as used when controlling it by RS232. See the section on page 14. When connecting to the Relay – 8 control port, the RS232 control on RS232 port one is disabled.



Controlling an electrical screen or lift

The Relay – 8 offers you the possibility to control up to four electrical screen and lift directly by 240VAC. When controlling electrical screen and lift we always recommend that you use two relays. One relay for screen up and one relay for screen down (In a configuration called: mutual blocking). Here you can see how to connect your screen to the Relay – 8.



When making the above configuration you add an extra safety level to your installation. The mutual blocking prevent that power can be connected to both up and down at the same time.

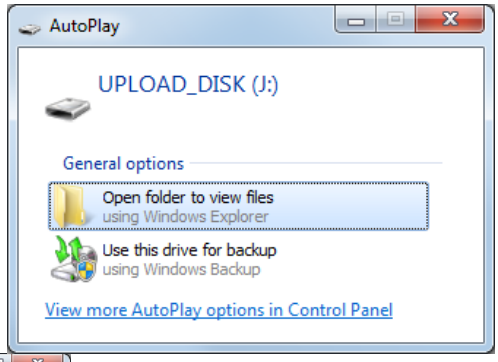
How you control this configuration depends on the way you connect it to you control system. In the previous three sections, you can find information on the three types of control you have.

How to upgrade the Firmware

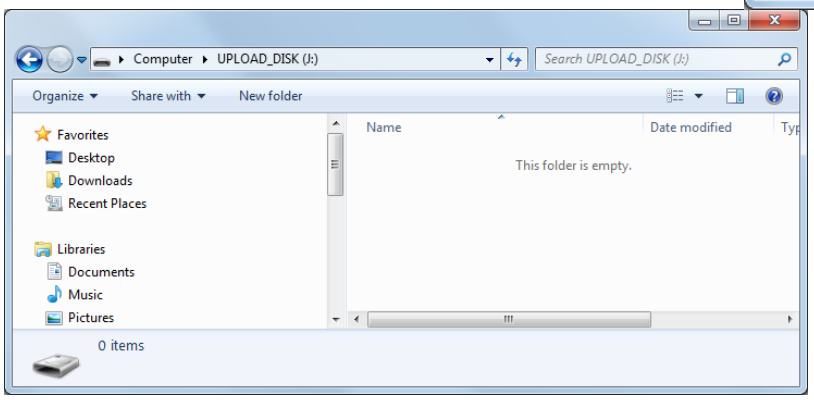
Upgrading the software of the Relay – 8 can be done by connecting it to a computer USB port. For details on the USB cable, see page 9.

On www.neets.dk you can find the latest firmware version available for Relay – 8. Download the new firmware file and save it on your computer.
One this is done connect the Relay – 8 to you computer

When connecting a Relay – 8 to your computer the first time it will require to be installed them may take a while. After the installation, you will see a new drive on your computer and be prompt like this (If Running on Windows 7)



Select the "Open folder to show files" and you get a disk called "UPLOAD_DISK" the drive name can be different from computer to computer.



Now simply copy the new firmware file to the "UPLOAD_DISK". After the firmware has been copied to the driver then simply disconnect the USB connection.

The Relay – 8 will now reboot and the firmware upgrade will begin. You can follow the progress of the firmware update on the front Relay led status on the front of the Relay – 8.

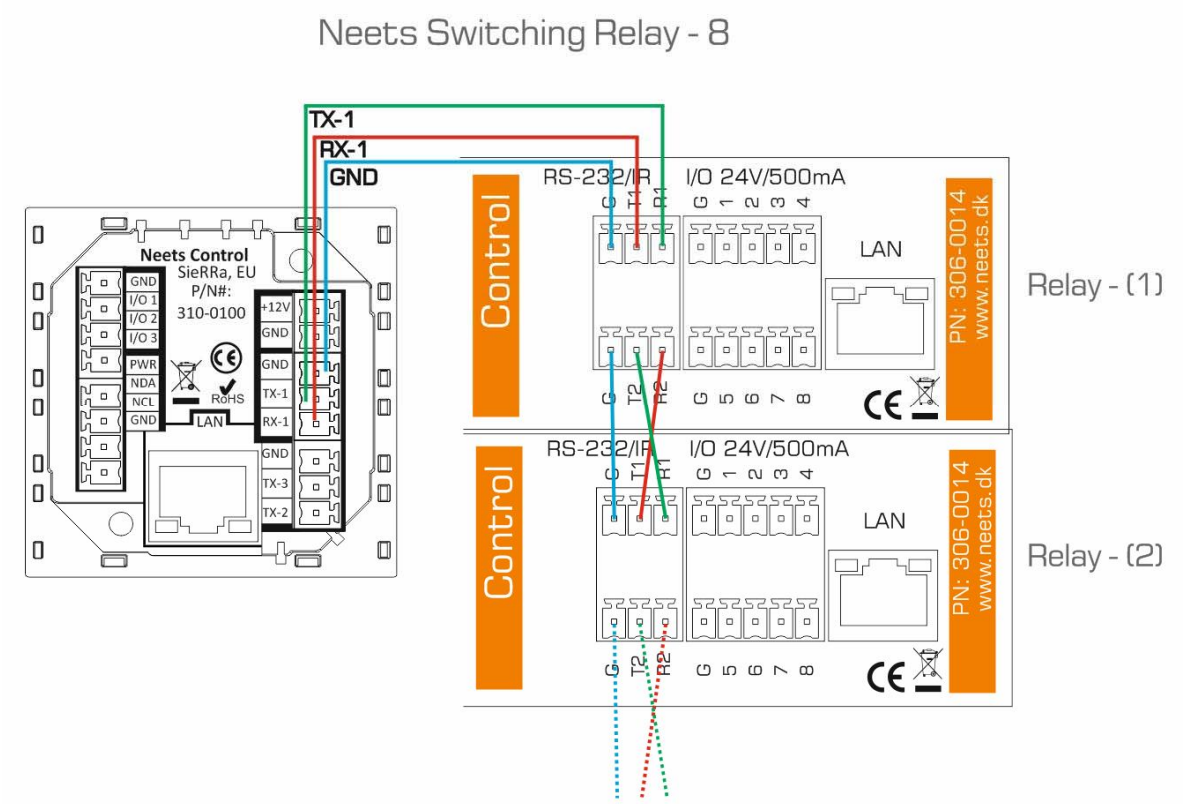
After a firmware upgrade all saved settings will be lost and have to be saved again.

How to connect several relay boxes to a RS-232 Line (daisy chaining)

By default, a RS232 line only allows you to be connected to a single receiver. But with the Relay – 8 you can control multiple units with just a single RS232.
So how do we do this?: Each Relay – 8 can be assigned a id number (Default 1) that allows you to define what unit a command should be handled by.

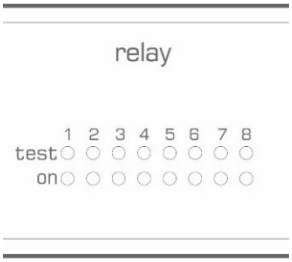
If the Relay – 8 device a command on Tx1 that has a id number different from itself, it will re-transmit the command on Tx2.(This function is called RS232 loop-through)
So adding a second Relay – 8 on the first Relay – 8 Tx 2 will allow you to control this. This is called daisy chaining the units.

Remember to assign different ID number to each of the Relay – 8 you are using in this constellation. See page 12 for details on how to change the id. Using the same ID number on multiple units will result in only one Relay – 8 will react to the command and not all with same id number.



Change the ID number of the relay box

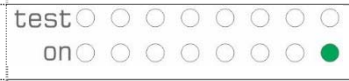
When controlling the Relay – 8 by the External protocol by ether RS232 or LAN the unit has a ID number that must be used in the command that are send to it. By default the Relay – 8 has address 1.The address can either be changed by RS232, LAN or the test button on the front of the unit.



To change address of the Relay – 8, see the command UNITID in the protocol list. Changing the address of the Relay – 8 on the front of the unit is done like this:

- Connect power to the unit.
- Within 5 sec, press one of the test button and hold it until its LED lights up.

When the Relay – 8 is powered up, it shows it's current address on the relay status LED. LED 1 = address 1, LED 2 = address 2 …. (While the unit address is displayed the power on LED is blue.)
If no LED is on, that indicates that the unit has an address that is not in the range 1-8. The address can be given any address using the UNITID command on ether RS232 or LAN.

Relay box ID	LED status when power on	Test button to press when changing to this ID
1		Relay 1
2		Relay 2
3		Relay 3
4		Relay 4
5		Relay 5
6		Relay 6
7		Relay 7
8		Relay 8
Other		ID has been set by the RS232 command.

Reset the unit to Factory default

You can at any time press and hold the relay 1 and 8 test button in for 5 sec. The unit will reboot and assume the factory settings.

It is also possible to reset the Relay – 8 using the command RESET. See the protocol list for details.

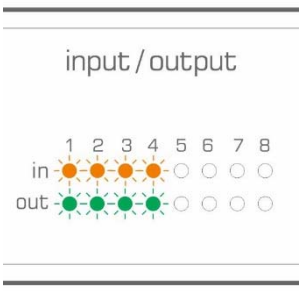
After resetting the system, it has these settings:

- I/O is set to inputs and controls the relays (I/O 1 ->relay 1, I/O 2 ->relay 2).
- RS232 port 1: 19200 8N1, ready for loop-through.
- RS232 port 2: 19200 8N1.
- IP Address: 192.168.254.252.
- LAN control port: TCP, port 5000.
- LAN to RS232 port 1: TCP, port 5011.

- LAN to RS232 port 2: TCP, port 5012.
- Neets LanBus: Multicast address: 224.10.10.25, port 7979.

Error indication

If there is an error in the system, it will be displayed on the front of the Relay – 8.
On error the power led will flash red.

 The above led is flashing.	Unexpected Error	Turn off the power to the control system for 20 sec before turning the power on again. If the error is not resolved, contact Neets or your local distributor.

RS-232 and LAN protocol

Controlling the Relay – 8 over RS232 or LAN is done with the same protocol.
If you are using a Neets Control system there is a Device Driver available which provides you with all the commands below. Open the Device driver in the Neets Device Editor and use the "play" function on each command gives you an easy way of setting up and configuring the Relay – 8 from your computer.

Communications parameter

Default RS232 settings:
Baudrate: 19.200
Databit: 8
Stopbit: 1
Parity: None

Default LAN settings:
Network Protocol: TCP
Control port: 5000 (Only one active connection at a time)
LAN to RS232 port 1 gateway port: 5010 (Only one active connection at a time)
LAN to RS232 port 2 gateway port: 5011 (Only one active connection at a time)

Control from the RS232 port is enabled by default. When connecting to a LAN control port the RS232 ports converts to LAN-RS232 gateways and they can not be used to control the Relay - 8. The only way to get back to RS232 control is by cycling power.

Saving the settings. When adjusting the settings of the Relay – 8, it is important to save the settings that you want the Relay – 8 to use after the next power cycling. This is done with the save command. You can find more information regarding the save on page 15.

Command

When entering all the commands in the Neets Device Editor software, select "Chr/ASCII" as input format. To understand the commands below please keep this in mind:

Symbol:	Description:
<A>	When constructing the command, this part must be replaced with a sting or number.
<B>	When constructing the command, this part must be replaced with a sting or number.
\CR	Every command line must end with a carriage return. Carriage return is commonly referred to as "CR" or if you need to enter it in hex, the value is 0D and in decimal, it is 13.
"," or ,	When making a command it consist of several parts. Each part is separated with a comma. E.g. NEUNIT=1,RELAY=1,ACTION=SET,TIME=10.5

Please be aware that all the RS232 commands are case sensitive. If the Relay – 8 detects an error in the command line, the entire command will be ignored.

Sending multiple commands is possible without time delay between commands. Just remember that each command must end with \CR.

If you are looking for a complete list of commands already made, look at the premade device driver found in the Neets device driver library.

Example

Below you will find a few command that can control the Relay – 8. The below command are just a few examples to show you how the interface are working. For more details on the command go the next sections.

Examples of command than can be send on ether RS232 or LAN.
e.g: NEUNIT=1,RELAY=1,ACTION=SET\CR
Reply: NEUNIT=1,OK\CR

e.g: NEUNIT=1,RELAY=1,ACTION=? \CR
Reply: NEUNIT=1,RELAY=1,ACTION=RELEASE\CR

Global functions

In the global functions you find all the functions that allows you to adjust the basic functions of the Relay – 8. Normally the functions are used while setting up the system. If you wish to use these settings after a power cycle of the Relay – 8 please remember to use the save command.

Below is the settings for the global functions, for all commands it is mandatory that the start of the sequence look like this: NEUNIT=<A>,

Where <A> as default is 1. All commands must be started with a "," and all lines must end with a \CR

Description:	Syntax	<A>	Default <A>	R/W
Save the current settings as the default startup values.	SAVE=TRUE			W
Restore factory defaults values for the entire system.	FACTORYDEFAULT=TRUE			W
Set all the values to their default (last saved). This is done by re-booting the unit.	RESET=TRUE			W
Get/set unit ID You can set the unit id number either at the front of the unit using its relay test buttons. See general manual for the unit for more details. The ID that can be assigned on the front are: 1, 2, 3 ….8 By RS232 or LAN you can define any id that you want as long as they are no longer that 9 ascii charaters. e.g.: NEUNIT=1, UNITID=Neets1\CR NEUNIT=1, UNITID=RoomA\CR	UNITID=<A>	Up to 9 character long.	1	R/W
Unit, SN	UNITSN=<A>	xxyyzzzzz		R
Unit software version	SWVERSION=?	x.y.z		R

Example of use: NEUNIT=1,UNITID=23\CR <- Set the ID number of the unit to 23.

LAN Settings

In the LAN Settings you find the settings to set the LAN parameter for the unit. Remember that if you want the unit to use the current settings at next power up, you have to send the save command.

Below are the settings for the LAN port. For all commands the mandatory start sequence look like this: NEUNIT=<A>,SETTINGS=LAN.

Where <A> as default is 1. All commands must be started with a "," and all lines must end with a \CR

Description:	Syntax	<A>	Default <A>	R/W
Set unit IP address	IPADDRESS=<A>	xxx.xxx.xxx.xxx	192.168.254.252	R/W
Set unit sub net	SUBNET=<A>	xxx.xxx.xxx.xxx	255.255.255.0	R/W
Set gateway	GATEWAY=<A>	xxx.xxx.xxx.xxx	192.168.254.252	R/W
Select if DHCP is used or not.	DHCP=<A>	ON, OFF	OFF	R/W
LAN speed (F = Full duplex,H = Half duplex)	SPEED=<A>	10F, 10H, 100F, 100H, AUTO	100F	R/W
Set control TCP Port	IPPORT=<A>	0-65555	5000	R/W
Get the MAC address of the unit.	MACADDRESS=<A>	xx:xx:xx:xx:xx		R
Set the multicast address the unit must use when communicating with other Neets units by LAN. (Remember when changing this value, it must also be done on all other system this unit must communicate with.) After changing the multicast address remember to send the save command in order to make sure that the system uses this address at next reboot.	MULTICASTADDRESS=<A>	xxx.xxx.xxx.xxx	224.10.10.25	R/W

Set the multicast port the unit must use when communicating with other Neets units by LAN. (Remember when changing this, it must also be done in all other systems this unit must communicate with.) After changing the multicast port, remember to send the save command in order to make sure that the system uses this port at next reboot.	MULTICASTPORT=<A>	0-65555	7979	R/W

Example of use:
NEUNIT=1,SETTINGS=LAN,IPADDRESS=192.168.10.2,SUBNET=255.255.255.0,GATEWAY=192.168.10.1\CR

Relay control

When controlling the relays you can do simple things like "Set", "Release" and "Toggle" the relays. You can also do more advanced things, like delaying the execution of the command and setting the time that the "Set" function should apply.

Below is the possible settings of relays. For all commands, the mandatory start sequence look like this: NEUNIT=<A>,RELAY=<B>

Where <A> as default is 1, and <B> is the relay you want to control. All commands must be started with a "," and all lines must end with a \CR

Description:	Syntax	<A>	Default <A>	R/W
Control the relay	ACTION=<A>	SET, RELAESE or TOGGLE	RELEASE	R/W
Delay before execution of action (Start delay)	DELAY=<A>	0-6500.0	0	W
Time (chances the action from latch to momentary in this time)	TIME=<A>	0-6500.0	0	W

Example of use: NEUNIT=1,RELAY=1,ACTION=SET,TIME=10.5\CR <- This command sets relay 1 in 10.5 seconds.
To get the current status of a relay use this command:
NEUNIT=1,RELAY=1,ACTION=?\CR
Reply:
NEUNIT=1,RELAY=1,ACTION=RELEASE\CR

Screen control settings

The screen control offers you an easy and safe way to control electrical screens and lifts using 2 relays or I/O. When combining 2 relays in screen mode, you define the screen up and down time once. After this you simply send command indicating the direction the screen should move.
The Screen mode ensures that the 2 relays or I/O in no way can be activated at the same time.

Below are the settings for the screen control, for all commands the mandatory start sequence look like this: NEUNIT=<A>,SETTINGS=SCREEN,SCREEN=<B>.

Where <A> as default is 1 and <B> is the number of the screen you want to configured. All commands must be started with a "," and all lines must end with a \CR.

Description:	Syntax	<A>	Default <A>	R/W
Select the screen that should be configured	SCREEN=<A>	<A>: 1 = IO 1 and 2; 2 = IO 3 and 4; 3 = IO 5 and 6; 4 = IO 7 and 8; 5 = Relay 1 and 2; 6 = Relay 3 and 4; 7 = Relay 5 and 6; 8 = Relay 7 and 8		W
Enable or disable the screen mode	ENABLED=<A>	TRUE or FLASE	FALSE	R/W
Delay time, pause time between the two outputs can be activated	BLOCKTIME=<A>	0-6500.0 second	0	R/W
Up time, The time it takes the screen to move from bottom to top of the screen.	UPTIME=<A>	0-6500.0 second	0	R/W
Down time, The time it takes the screen to move from top to bottom of the screen.	DOWNTIME=<A>	0-6500.0 second	0	R/W

Example: NEUNIT=1,SETTINGS=SCREEN,SCREEN=2,ENABLED=TRUE\CR <-Combine IO 3 and 4 on screen mode.

Example:
NEUNIT=1,SETTINGS=SCREEN,SCREEN=2,UPTIME=35,DOWNTIME=30,BLOCKTIME=1.5\CR <-Set screen 2 to a uptime of 35 sec, a down time to 30 sec and a block time to 1,5 sec.

Screen control

Below are the possible settings of screen control, For all commands the mandatory start sequence look like this: NEUNIT=<A>,SCREEN=<B>

Where <A> as default 1, and <B> is the screen you want to control. All commands must be started with a "," and all lines must end with a \CR

Description:	Syntax	<A>	R/W
Control the Screen	ACTION=<A>	UP, DOWN, STOP	R/W

Example of use: NEUNIT=1,SCREEN=2,ACTION=UP\CR <- This command makes screen 2 go up in the time defined by the command "UPTIME" found in the "Screen control settings" section.

Input/output settings

Below is the settings for the I/O, for all commands are the mandatory start sequence look like this: NEUNIT=<A>,SETTINGS=IO,IO=<B>
Where <A> as default is 1 and <B> is the number of the I/O you want to configured. All commands must be started with a "," and all lines must end with a \CR

Description:	Syntax	<A>	Default <A>	R/W
Set the I/O to input or output	FUNCTION=<A>	INPUT or OUTPUT	INPUT	R/W
Set to use PUSH or PULL mode for status change on input. This is a global setting that applies for all IO. In PULL mode you have to request the status of all input you want to know the state of like this; NEUNIT=1,SETTINGS=IO,MESSAGE=PUSH \CR In PUSH mode the Relay – 8 will send a message to you when there is a change on one of the inputs. E.g. NEUNIT=1,IO=1,STATUS=HIGH\CR	MESSAGE=<A>	PUSH or PULL	PULL	R/W

Link input to relay activation Input 1 is linked to relay 1 Input 2 is linked to relay 2 … Input 8 is linked to relay 8 When a relay is linked to an input this will apply until they are either unlinked or a command that control either the relay or the input are received.	LINK=<A>	TRUE or FALSE	TRUE	R/W

Example: NEUNIT=1,SETTINGS=IO,IO=2,FUNCTION=INPUT\CR <- This set output 2 to input

Output control

Below is the possible control of I/O, for all commands the mandatory start sequence look like this: NEUNIT=<A>,IO=<B>

Where <A> as default is 1, and <B> is the I/O you want to control. All commands must be started with a "," and all lines must end with a \CR

Description:	Syntax	<A>	R/W
Control the output	ACTION=<A>	SET, RELEASE or TOGGLE	R/W
Delay before executed of action (Start delay)	DELAY=<A>	0-6500.0 second	W
Time (chances the action from latch to momentary in this time)	TIME=<A>	0-6500.0 second	W
Read the input reply example: NEUNIT=1,IO=1,STATUS=HIGH\CR	STATUS=?	HIGH, LOW	R

Example of use: NEUNIT=1,IO=2,ACTION=SET,TIME=10.5\CR <- This command sets IO 2 in 10.5 seconds

RS-232 settings

Below are the settings for the RS232. For all commands the mandatory start sequence look like this: NEUNIT=<A>,SETTINGS=RS232, RS232=<B>

Where <A> as default is 1, and <B> is the RS232 port number to make settings for. All commands must be started with a "," and all lines must end with a \CR

Description:	Syntax	<A>	Default	R/W
Set the comport baud rate	BAUDRATE=<A>	1200,2400,4800, 9600,14400,19200, 38400,57600,115200	19200	R/W
Set the comport data bit	DATABIT=<A>	7, 8	8	R/W
Set the comport parity	PARITY=<A>	NONE, ODD or EVEN	NONE	R/W
Set the comport stop bit	STOPBIT=<A>	1 or 2	1	R/W
Set the comport TCP Portnumber (if used as LAN gateway)	IPPORT=<A>	0-65555	1:5011 2:5012	R/W

Example of use: NEUNIT=1,SETTINGS=RS232,RS232=1,BAUDRATE=19200,DATABIT=7\CR

RS-232 command

Below are the settings for the COM port. For all commands the mandatory start sequence look like this: NEUNIT=<A>,RS232=<B>

Where <A> as default is 1, and <B> is the COM port number to use. All commands must be started with a "," and all lines must end with a \CR

Description:	Syntax	<A>	Default <A>	R/W
Data container. Each byte must be converted to a 2 byte ASCII value. Fx: "Neets" becomes "4E65657473"	DATA=<A>	Up to 500 byte of date		R/W

Example of use: NEUNIT=1,RS232=2,DATA=4E65657473\CR send "Neets" on RS232 port 2

IR command (Advanced users)

On the Tx 1 and 2 it is also possible to send IR codes. Sending IR codes is only possible when controlling the unit over LAN.

Before you start working with sending IR commands it is important to understand that this part of the system are intended for advance users and requires a high level of IR code knowledge.
The format of the IR code that are used are a common used format. This allows you to easily find IR codes from other sources than Neets, e.g. www.remotecentral.com

If you want to control things like volume on a device you should remember to retransmit the IR command as long as you want the volume to change. (Remember to wait for the acknowledgement of sending IR command before sending the next)

Below are the settings for the IR. For all commands the mandatory start sequence look like this:
NEUNIT=<A>,IR=<B>

Where <A> as default is 1, and <B> is the IR port number to use. All commands must be started with a "," and all lines must end with a \CR

Description:	Syntax	<A>	Format	R/W
Data container. The data are in RAW IR code format. Can be copied directly from Neets Device Editor.	DATA=<A>	Up to 500 byte of date	xxxx yyyy …. zzzz	R/W

Example of use: NEUNIT=1,IR=2,DATA=0000 006D 0022 0002 0155 00AB 0015 0040 0016 0015 0015 0015 0016 0040 0015 0040 0016 003F 0016 0040 0015 0015 0016 0015 0016 003F 0016 0040 0015 0015 0016 0015 0016 0015 0015 0015 0016 0040 0015 0040 0016 0015 0015 0015 0016 0015 0016 0015 0015 0015 0016 0015 0016 0015 0015 0015 0016 0040 0015 0040 0016 003F 0016 0040 0015 0040 0016 003F 0016 0040 0015 05E9 0156 0055 0016 0E3F\CR <-Sending a IR command on the Tx 2 port.